

PATENT
USSN 09/990,080
Docket 018/258c

AMENDMENTS TO THE SPECIFICATION

Please correct the paragraphs on lines 3-4 of page 4 of the substitute specification (paragraphs [0018] of the application as published) and insert a paragraph thereafter, as follows:

The hTRT variants of the present invention are characterized by one or more deletions or mutations, relative to a naturally occurring hTRT polypeptide, in defined regions of the protein, as described in detail infra. These hTRT variants may have none, one, or several of the biological activities that may be found in naturally-occurring full-length hTRT proteins. These activities include telomerase catalytic activity (the ability to extend a DNA primer that functions as a telomerase substrate by adding a partial, one, or more than one repeat of a sequence, e.g., TTAGGG, encoded by a template nucleic acid, e.g., hTR), telomerase conventional reverse transcriptase activity (see Morin, 1997, supra, and Spence et al., 1995, Science 267:988); nucleolytic activity (see Morin, 1997, supra; Collins and Grieder, 1993, Genes and Development 7:1364; Joyce and Steitz, 1987, Trends Biochem. Sci. 12:288); primer (telomere) binding activity (see, Morin, 1997, supra; Collins et al., 1995, Cell 81:677; Harrington et al., 1995, J. Biol. Chem. 270:8893); dNTP binding activity (Morin, 1997, supra; Spence et al., supra); and RNA (e.g., hTRT) binding activity (see Morin, 1997, supra; Harrington et al., 1997, Science 275:973; Collins et al., 1995, Cell 81:677).

In one embodiment of the invention, the hTRT variant has telomerase catalytic activity. Telomerase catalytic activity may be processive or nonprocessive. Processive telomerase catalytic activity occurs when a telomerase RNP adds multiple repeats to a primer or telomerase before the DNA is released by the enzyme complex (see, e.g., Morin, 1989, Cell 59:521 and Morin, 1997, Eur. J. Cancer 33:750). Nonprocessive activity occurs when telomerase adds a partial, or only one, repeat to a primer and is then released (see Morin, 1997, supra). In a particular embodiment of the invention, the hTRT variant has processive telomerase catalytic activity.